

Abstract**A Syntactic Phenolic Foam Composition.**

5 The present invention concerns a pre-mix for a syntactic phenolic foam composition; a syntactic phenolic foam composition; and a process for preparing the syntactic phenolic foam composition.

10 The pre-mix comprises thermally expandable and / or expanded thermoplastic microspheres, the microspheres comprising a thermoplastic polymer shell made of a homopolymer or copolymer of 100 to 25, for example 93 to 40, parts by weight of a nitrile-containing, ethylenically unsaturated monomer, or a mixture thereof; and 0 to 75, for example 7 to 60, parts by weight of a non-nitrile-containing, ethylenically unsaturated monomer, or a mixture thereof; and a propellant, or a mixture thereof, trapped within the thermoplastic polymer shell; and one of either
15 a highly reactive phenolic resole resin capable of fully crosslinking at temperatures between 15°C and 60°C, optionally in the presence of up to ten times its own weight in water, and having, typically, a free phenol content of 12-15% (w/w); or an acidic catalyst for curing the phenolic resole resin.

20 The process comprises either curing the above-mentioned pre-mix in the presence of the other of the acidic catalyst; and the highly reactive phenolic resole resin, as defined above or, alternatively, curing all three components, together with any other components.